# Mathematical Background

Here is an overview of the content your students will learn in this unit.

Multiplying and Dividing Fractions

Represent and solve multiplication of a whole number and a fraction.

- Objects and models can be used to determine the product of a whole number and a unit fraction or a whole number and a non-unit fraction.
- Equivalent expressions can be used to represent the product.
  » The product of a unit fraction and a whole number represents the number of equal groups made from the whole number.

$$3 \times \frac{1}{3} \qquad 3 \times \frac{2}{3}$$
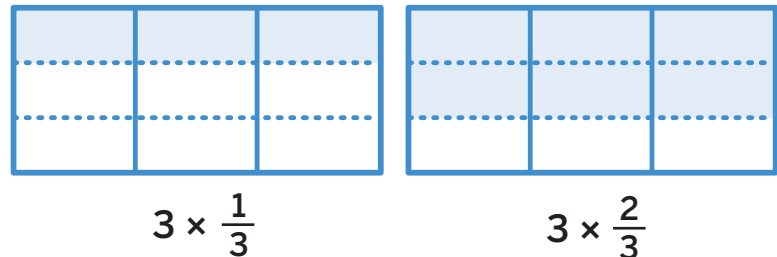
### Represent and solve division of a whole number by a unit fraction.

- Division of a whole number by a unit fraction can be represented with models and equivalent expressions.
  » When dividing a unit fraction by a whole number, the dividend represents the total, the divisor represents the number of parts, and the quotient represents the size of the parts.

1 $\frac{1}{2}$
2
3
4

8 new parts

$4 \div \frac{1}{2}$
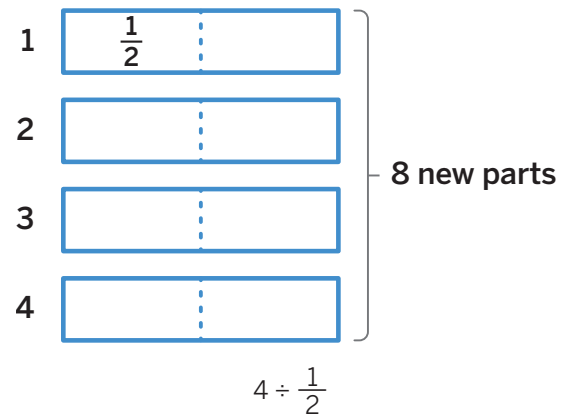
Represent and solve division of a unit fraction by a whole number.

- Division of a unit fraction by a whole number can be represented with models and equivalent expressions.
  » When dividing a unit fraction by a whole number, the dividend represents the total, the divisor represents the number of parts, and the quotient represents the size of the parts.

1 whole

$\frac{1}{4}$

$\frac{1}{16}$

$\frac{1}{4} \div 4$
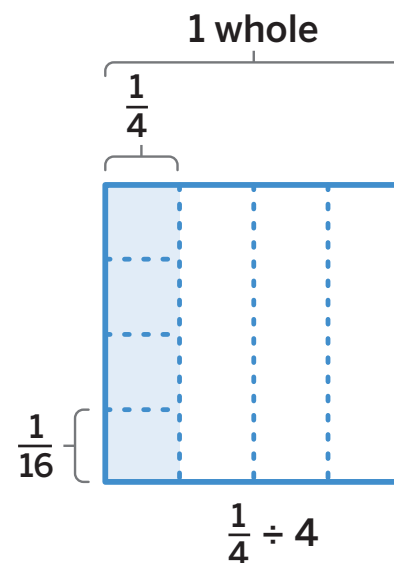
Lesson 1 is the Unit Investigation. Students explore fraction multiplication by predicting the number of pieces a paper has been folded into to build curiosity and apply their own knowledge in a variety of ways. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy challenging friends or family members to the same task of predicting the number of parts before unfolding. Encourage students to fold different sizes of paper to see if they notice patterns that hold true, no matter the size of the original shape.